

APPLICANTS: Harth Yoram  
SERIAL NO.: 09/756,130  
FILED: January 9, 2001  
Page 9

REMARKS

Applicants have carefully studied the outstanding Office Action of March 15, 2002. The present amendment is intended to be fully responsive to all points of rejection raised by the Examiner and is believed to place the application in condition for allowance. Favorable reconsideration and allowance of the application is respectfully requested.

Claims 1-36 were pending in the subject Application. Applicants have hereinabove cancelled claims 4, 8, 10-14 and 21- 36, amend claims 1, 2, 5, 6, 7, 15, 17, 18 and 20 and added new claims 21-29. No new matter has been added. Applicants request entry of the amendments.

Attached hereto is a marked-up version of the changes made to the specification and the claims by the current amendment. The attached page is captioned "Version with Markings to Show Changes Made".

Allowable Subject Matter:

Applicants gratefully acknowledge the Examiner's indication that claims 4-8, 15, 17, 18, 26, and 29-36 would be allowable if rewritten to overcome the rejections under U.S.C. 112, second paragraph, and that claims 9, 16, and 19 would be allowable if rewritten in independent form.

Remarks to the Drawings:

Figs. 1, 6A-6C, 8B and 9A have been amended.

The drawings have been objected to under 37 CFR 1.83 (a) for not showing labels 22, 68 or 78 as described in the specification. Fig. 1 has been amended to add label 22. The specification was amended on page 13 line 28 and on page 14 line 18 to cancel the indications to labels 68 and 78, respectively.

The drawings are objected to as failing to comply with 37 CFR 1.84 (p)(4) because reference character pairs 52&54, 62&64, 74&72, 65&69 and 76&77 refer to multiple items in the disclosure. Label 52 was deleted from Figure 6A and from the specification on page 13 line 1. Label 62 was deleted from Figure 6B and from the specification on page 13 line 23. Label 69 was deleted from Figure 6B and from the specification on page 14 line 2. Label 72

APPLICANTS: Harth Yoram  
SERIAL NO.: 09/756,130  
FILED: January 9, 2001  
Page 10

was deleted from Figure 6C and from the specification on page 14 line 11. Label 77 was deleted from Figure 6C and from the specification on page 14 line 17.

Accordingly, Applicants respectfully assert that the objection to the drawings should be withdrawn.

Additionally, Figs 8B and 9A have been amended to match the specification.

Remarks to the specification:

The disclosure was objected because of informalities. The disclosure was amended to overcome the informalities and to match the drawings. No new matter has been added. Thus applicants respectfully request the Examiner withdraw the objection to the disclosure.

Claims Rejections:

35 U.S.C. § 112:

Claims 10-14 are rejected under 35 U.S.C. 112, first paragraph as containing subject matter which was not described in the specification. In response Applicants cancelled claims 10-14 without prejudice and disclaimer. Accordingly, Applicants respectfully assert that the rejection to claims 10-14 should be withdrawn.

Claims 2, 4-8, 13-15, 17, 18, and 20-32 are rejected under 35 U.S.C. 112, second paragraph as being indefinite for failing to particularly point out the subject matter which applicants regards as the invention. Claims 2, 5-8, 13-15, 17 and 18 have been amended to overcome the rejection. These amendments do not narrow the scope of the claims. The amended claims are not subject to the complete bar against the use of Doctorine of Equivalents as outlined in Festo Corporation v. Shoketsu Kogyo Kapushiki Co., Ltd. a/ka/SMC Corporation and SMt Pneumatics, Inc. Claims 21-32 were cancelled. Claim 4 has been deleted. The material of claim 4 has been amended and, in addition, was incorporsted into claim 1. Accordingly, Applicants respectfully assert that the rejection to claims 2, 5-8, 13-15, 17, and 18 should be withdrawn.

APPLICANTS: Harth Yoram  
SERIAL NO.: 09/756,130  
FILED: January 9, 2001  
Page 11

Claim Rejections under 35 USC 102:

In the Office Action, the Examiner has rejected claims 1-2 under 35 USC 102 as being anticipated by U.S. Patent No. 6,324,418 (Crowley et al.). The Examiner further rejected claims 1-3 under 35 USC 102(e) as being anticipated by U.S. Patent No. 5,896,457 (Tyrrel).

In response, claim 1 has been amended to incorporate the allowable subject matter of claim 4 thus rendering the rejection under 35 USC 102 moot. Applicants respectfully asserts that amanded independent claim 1 is now in condition for allowance. Claims 2 and 3 depend from claim 1 and therefore include all the limitations of this claim. Therefore, Applicants respectfully assert that claims 2 and 3 are likewise allowable.

The Examiner further rejected claims 21, 22 and 25 under 35 USC 102(b) as being anticipated by U.S. Patent No. 5,576,013 (Williams et al.). In response, Applicants have cancelled claims 21-36 without disclaimer or prejudice. Thus Applicants request to withdraw the rejection.

Claim Rejections under 35 USC 103:

In the Office Action, the Examiner has rejected claim 24 under 35 USC 103(a) as being unpatentable over U.S. Patent No. 5,576,013 (Williams et al.) in view of U.S. Patent No. 6,269,818 (Lui et al.). In response, Applicants have cancelled claim 24 without disclaimer or prejudice. Accordingly, Applicants respectfully assert that the rejection to claim 24 should be withdrawn.

New Claims:

Claims 21-29 have been added. These claims have been added in order to point out more particularly what the Applicants regard as their invention.

In view of the above remarks, it is submitted that the application is now in condition for allowance. Prompt consideration and allowance of claims 1 - 29 is respectfully requested.

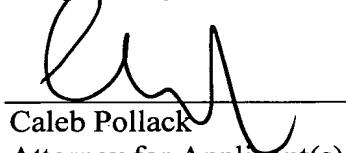
Should the Examiner have any question or comment as to the form, content or entry of this Amendment, the Examiner is requested to contact the undersigned at the telephone number below. Similarly, if there are any further issues yet to be resolved to advance the

APPLICANTS: Harth Yoram  
SERIAL NO.: 09/756,130  
FILED: January 9, 2001  
Page 12

prosecution of this application to issue, the Examiner is requested to telephone the undersigned counsel.

No fee is deemed necessary for filing this Amendment. However, if any fee is required the undersigned Attorney hereby authorizes the United States Patent and Trademark Office to charge Deposit Account 05-0649.

Respectfully submitted,

  
Caleb Pollack  
Attorney for Applicant(s)  
Registration No.

Dated: June 12, 2002

Eitan, Pearl, Latzer & Cohen-Zedek  
One Crystal Park, Suite 210, 2011 Crystal Drive  
Arlington, VA, USA 22202-3709  
Telephone: (703) 486-0600  
Fax: (703) 486-0800

APPLICANTS: Harth Yoram  
SERIAL NO.: 09/756,130  
FILED: January 9, 2001  
Page 13

**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**In the Specification:**

The paragraph beginning at page 9, line 15 has been amended as follows.

-- [FIG.] FIGS. 10A-10F [and 10-B, C and D], are [four] schematic [side views] illustrations of another embodiment of the present invention light source apparatus, wherein [in figure 10A] the illumination head is structured of an integrated dual illumination source; --

The paragraph beginning at page 12, line 28 has been amended as follows.

-- Figure 6A is a schematic cross section illustration of one of a set of three possible preferred embodiments of the present invention lighting head unit **13** of the apparatus described in figure 1, the first possible embodiment is referred to herein below as system **50**. Light source head embodiment of system **50** consists of a housing **51** that supports an arc lamp, or a line beam shape laser light source [**52**] (not shown) that emits violet/blue light with a peak at 405-[420] 440nm. The light source is fixed in the first focal point **54** of an elliptical cross section shape reflector **53**. The energy emitted out of the preferred spectral band reflected by the elliptical shaped reflector and is imaged as a line source at its second focal point **55**. From the secondary focal point the beam is diverging at a small angle and creates an oval shaped illumination area **81** of typical size 20X10 [cm] cm<sup>2</sup>. at a convenient treatment distance of 30-40 cm. from the lamp housing exit aperture. The non violet spectral part of the light source emission is rejected and filtered out by filter unit **56** and the lamp housing is sealed by tempered glass window **57** possibly coated with a heat mirror layer for the protection of the patient against heat and explosion. The required narrow spectral emission band of violet/blue light source is radiated by the present invention dedicated arc lamp due to a special gas mixture within the lamp, or by a violet/blue light emitting semiconductor diode junction array. The above light

APPLICANTS: Harth Yoram  
SERIAL NO.: 09/756,130  
FILED: January 9, 2001  
Page 14

sources in a single source type embodiment, or in a combination of two or three type of different spectral emission bands light sources alternative embodiment, allows optimal violet/blue light radiation with, or without additional narrow spectral band lines in the red or green parts of the spectrum.

The paragraph beginning at page 13, line 18 has been amended as follows.

-- Figure 6B is a schematic cross section illustration of a second possible preferred embodiment of the present invention lighting head unit **13** of the apparatus described in figure 1, the second possible embodiment is referred to herein below as system **60**. Light source head embodiment of system **60** consists of a housing **61** that supports an arc lamp, or a line beam shape laser light source **[62]** (not shown) that emits violet/blue light with a peak at 405-[420] 440nm. The light source is fixed in the first focal point **64** of an elliptical cross section shape reflector **63**. The energy emitted out of the preferred spectral band reflected by the elliptical shaped reflector and is imaged as a line source at its second focal point **65**. In the secondary focal point **65** the beam enters a slit or an oval shape fiber bundle aperture, matching the size and shape of the imaged light line [at this point **68**]. At the exit circular aperture **67** of this fiber bundle the emerging light is diverging at a typical 40 degrees angle and creates a circular shaped illumination area while its size and consequently the illumination power density can be controlled by changing the distance from the exit fiber end **67** to the patient treated skin area. The UV non violet spectral part of the light source emission is rejected and filtered out by filter unit **66** and the lamp housing is sealed by a cover window **[69] 92**. The above light sources in a single source type embodiment, or in a combination of two or three type of different spectral emission bands light sources alternative embodiment, allows optimal violet/blue light radiation with, or without additional narrow spectral band lines in the red or green parts of the spectrum.

APPLICANTS: Harth Yoram  
SERIAL NO.: 09/756,130  
FILED: January 9, 2001  
Page 15

The paragraph beginning at page 14, line 7 has been amended as follows.

-- Figure 6C is a schematic cross section illustration of a third possible preferred embodiment of the present invention lighting head unit **13** of the apparatus described in figure 1, the third possible embodiment is referred to herein below as system **70**. Light source head embodiment of system **70** consists of a housing **71** that supports an arc lamp, or a line beam shape laser light source [72] (not shown) that emits violet/blue light with a peak at 405-[420] 440. The light source is fixed in the first focal point **74** of an elliptical cross section shape reflector **73**. The energy emitted out of the preferred spectral band reflected by the elliptical shaped reflector and is imaged as a line source at its second focal point **75**. After passing through in the secondary focal point **75** the beam is entering a set of two cylindrical lenses **76** and [77], which are orthogonal oriented with respect to their linear axis. At the exit of this lens system aperture [78] a close to a circular light illumination area is created of typical size 20X20 cm<sup>2</sup> [cm]. at a convenient treatment distance of 30-40 cm. from the lamp housing exit aperture. The UV non violet spectral part of the light source emission is rejected and filtered out by filter unit **79** and the lamp housing is sealed by a cover window **80**. The above light sources in a single source type embodiment, or in a combination of two or three type of different spectral emission bands light sources alternative embodiment, allows optimal violet/blue light radiation with, or without additional narrow spectral band lines in the red or green parts of the spectrum.

The paragraph beginning at page 15, line 24 has been amended as follows.

-- Figure 8B is a close look of control panel **86** in figure 8A. **89** is an electronic timing mechanism for controlling the treatment time. Counter **90** is a time-laps numerical indicator, for counting the accumulated operational hours of the illumination head **81**. [Switch **97** and indication lamp **91** control the operation of a fan cooling module, integrated in the illumination

APPLICANTS: Harth Yoram  
SERIAL NO.: 09/756,130  
FILED: January 9, 2001  
Page 16

head, having the task of cooling the slightly heated illuminated skin area, during the treatment time.] Switch 95 and indication lamps 92 and 96 enable switching and selecting the intensity of illumination between two discrete pre-selected energy levels. Switch 94 and the attached status indication lamp 93 is the system main power switch.

The paragraph beginning at page 16, line 1 has been amended as follows.

-- Figures 9A and 9B are two schematic views illustrations of another embodiment the present invention violet/blue light source apparatus 200, wherein in figure 9A the illumination source is structured of a dual illumination head module 201. The dual illumination head module 201 is operated by an integrated power supply and electronic control unit 206 and is supported by an adjustable height supporting mechanism 203. The head 210 height positioning related to the treated area defined by the two illumination collimated light beams 230 [206] is done by sliding up or down a supporting pole with an integrated piston unit which is a part of the support mechanism 203 and then tightening the lever 204 at the requested height. Cable harness 221 connects the illumination heads 201 to the power supply and electronic control unit 206. Control panel 205 enables the operation and control of the operational parameters of the power supply and electronic control unit 206. Unit 206 is supported by a set of four maneuvering wheels 208, having an integrated stop and lock mechanism. The two illumination heads can be slightly [vertically tilted] tilted by the operator around pivot axis 202, in order to adjust the positioning and consequentially the illumination energy distribution of the two illumination collimated light beams 230, to be equally and evenly distributed on the two face sides of the treated patient head 210.

The paragraph beginning at page 18, line 4 has been amended as follows.

APPLICANTS: Harth Yoram  
SERIAL NO.: 09/756,130  
FILED: January 9, 2001  
Page 17

-- Figure 10F is a look of illumination head 301 including the ventilation air input duct aperture 354 and illumination output-window aperture 352. Figure 10E is a close look of the illumination output-window aperture 352 of the illumination head 301 [and on the ventilation air input duct aperture 354, of the illumination-head 301]. Illumination output-window aperture 352 includes [350 is] a halogen or tungsten filament lamp 350, geared for the illumination of the patient treated area, and [351 is the] an illumination unit glass protected output aperture window. [illumination is required for the optimal image condition during computer controlled pre treatment imaging. 351 is the illumination unit glass protected output aperture window.]

The paragraph beginning at page 19, line 17 has been amended as follows.

-- Bacterial growth and illumination – *Propionibacterium acnes* was transferred from the bacterial stock into Reinforced Clostridial Agar Plates. Bacteria were streaked on the [plated] plates for isolation of single colonies by the “clock plate technique”. These plates were called “Start plates” and were incubated for three days under aerobic conditions in an anaerobic jar. The jar contained Aaero Gen sachets from Oxoid, England to [mentain] maintain anaerobic conditions suitable for *P. acnes*.

In the Claims:

1. (Once amended) An apparatus for treatment of a skin disorder, the apparatus comprising:

at least one light source with spectral emittance concentrated in at least one specific narrow spectral band, wherein an illumination energy of said light source is higher than a predetermined threshold level and wherein one spectral band is in the range of 405 to 440 nm;

APPLICANTS: Harth Yoram  
SERIAL NO.: 09/756,130  
FILED: January 9, 2001  
Page 18

an optical system [for collecting] configured to collect and shaping light emitted from said at least one light source; and

an electronic unit [to] configured to issue control parameters associated with said spectral emittance from said at least one light source.

2. (Once amended) The apparatus of claim 1, wherein said parameters [include] are selected from a group [at least one of a group including] consisting of duration, power and emitted spectral bands of said light source emittance.
4. Cancelled
5. (Once amended) The apparatus as in claim 1, wherein said threshold level is a level required for biological destruction of acne and seborrhea causing factors.
6. (Once amended) The apparatus of claim 1, wherein said illumination energy threshold level of said [illumination] light source [is] having a power density of at least 40 [mw/cm<sup>2</sup>] mw/cm<sup>2</sup> at a distance [from the light source] of 30 cm from said light source.
7. (Once amended) The apparatus of claim 1, wherein the illuminated area on a skin [patient body by said light source comprises an illumination area large] is at least 200cm<sup>2</sup> [enough to illuminate an infected typical size skin area] when illuminating from a fixed position [of said light source related to] from said skin [area].
8. Cancelled
10. Cancelled
11. Cancelled
12. Cancelled
13. Cancelled
14. Cancelled
15. (Once amended) The apparatus of claim 1, further comprising:

at least one optical element of a group [comprising] consisting of a liquid filled light guide, a solid transparent light guide, a fiber bundle light guide and an

APPLICANTS: Harth Yoram  
SERIAL NO.: 09/756,130  
FILED: January 9, 2001  
Page 19

array of lenses and mirrors for collecting and conducting the said light source radiation and illuminating [the] a skin [treated] area at an adjustable distance, energy density and direction.

17. (Once amended) The apparatus of claim 1, wherein said at least one light source is [selected from the group including] an Ion-Krypton gas laser with a spectral emission in the range 405 to 440nm. [, and a diode, wherein said diode is selected from the group consisting of violet/blue laser diodes, and light emitting diodes (LED) with narrow spectral band emission in the range 405-440nm.]
18. (Once amended) The apparatus of claim 1, wherein the light of said at least one light source is collected and further projected by at least one reflector, wherein said reflector is selected from the group [comprising] consisting of an elliptical cross-section cylindrical reflector, parabolic cross-section cylindrical reflector, and an asymmetric aspheric reflector.
20. (Once amended) The apparatus of claim 18, wherein the light of said at least one light source is collected by an elliptical cross-section reflector having a first focal point and a second focal point, [and wherein said light source is disposed at said first focal point and has disposed at said second focal point a slit shape aperture of a slit to circular beam shaping and conducting light guide.]
21. (New) The apparatus of claim 1, further comprising an integrated computer module for accumulating the number and position information of affected skin spots and areas and further process and display said information.
23. (New) The apparatus of claim 21 further comprising a display unit for displaying an imaged illumination treated area.
24. (New) The apparatus of claim 23 wherein said display unit comprises a touch screen unit.
25. (New) The apparatus of claim 1, wherein said at least one light source is a diode wherein said diode is selected from the group consisting of violet/blue laser diodes, and light emitting diodes (LED) with narrow spectral band emission in the range 405-440nm.

APPLICANTS: Harth Yoram  
SERIAL NO.: 09/756,130  
FILED: January 9, 2001  
Page 20

26. (New) The apparatus of claim 1, wherein said at least one light source is an array of diodes wherein said diodes are selected from the group consisting of violet/blue emission LED and laser diodes, and light emitting diodes (LED) and laser diodes with spectral band emission in the red and green range.
27. (New) The apparatus of claim 1, wherein said at least one light source is any combination of Gallium, Mercury and halides gas mixture discharge lamp, ion Krypton gas laser, diode, and array of diodes.
28. (New) The apparatus of claim 27, wherein said combination has spectral band emission selected from spectral bands consisting of violet/blue, green and red.
29. (New) The apparatus of claim 1, wherein the illuminated area on a skin is 200cm<sup>2</sup> when illuminating from a distance of 40cm from said skin and said illuminated area size is controlled by changing the distance of illumination.